Fall 2017: CIS 324 - Introduction to Artificial Intelligence (3 Credits)

W 4:10-6:50. SN 227.

Instructor

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Office Hours: MW 1-3, WF 9-10, or by appointment

Course Description

From the Catalog – An overview of artificial intelligence, its tools and techniques. Includes such subjects as fuzzy logic, nonprocedural programming, basic search techniques, automated reasoning, and expert systems. Programming in Prolog or LISP and the creation of knowledge-based systems using expert system software shells. Emphasis on the application of artificial intelligence techniques to business and industrial problems. Prerequisites: CIS 321.

Mandated Goals/Learning Outcomes

- LEAP goal – Intellectual and practical skills throughout the curriculum.
- Learning outcomes – Critical thinking and creative thinking.

Specific Course Goals

- Get familiar with fundamental concepts and philosophical issues in AI.
- Learn important classical and modern AI approaches.
- Program simple AI systems. Acquire and use available AI systems.

Tentative Schedules

- Exam 1 – 9/20. Exam 2 – 10/11. Exam 3 – 11/8. Final exam – 9-11 am on 12/14.
- Week 1 – 4. Intelligence and artificial intelligence. State space search. Games.
- Week 5 – 7. Formal logic and reasoning systems. Expert systems. Uncertainty in AI.
- Week 8 – 11. Machine learning. Classification methods. Neural networks.
- Week 12 – 15. Genetic algorithms. Robots – software and sensor systems.
- For detailed schedules and assignments with due dates etc., please visit
  http://webpages.shepherd.edu/zwang/324.html.

Recommended Textbooks

Introduction/Survey - "Artificial Intelligence in the 21st Century" by Stephen Lucci and Danny Kopec, 2nd edition, Mercury Learning & Information, 2015. ISBN: 978-1942270003.

Philosophy - "Artificial Intelligence: The Basics" by Kevin Warwick, Routledge, 1st edition, 2011. ISBN: 978-0415564830.

Programming - "AI Algorithms, Data Structures, and Idioms in Prolog, Lisp, and Java" by George Luger and William Stubblefield, 6th edition, Addison Wesley, 2008. ISBN: 978-0136070474.

Evaluations

- Assignments/Projects – 50%
  No late assignment/project will be accepted without a documented excusable reason. Due dates are posted on the course website. Please start early.
- Three Midterm Exams – 30%
  The first missing midterm exam can be excused with an excusable reason such asan absence with a doctor's written notice. In this case the final exam carries its weight.
- Comprehensive Final Exam – 20%
  A missing final exam receives a zero. No exception.
- Final Grade – A ≥ 90%, B ≥ 80%, C ≥ 70%, D ≥ 60%, F < 60%.

Federally, HEPC, and Shepherd Mandated Policies

Disability Support Services
Disability Support Services at Shepherd University believes that every student should succeed, and works closely with students to meet their needs. Students requesting any disability related accommodation should contact the Disability Coordinator at 304-876-5122. This includes students with learning disabilities needing classroom accommodations, students requesting specific housing accommodations for health-related reasons, and all other disability accommodations. Accommodations need to be documented and provided to instructors. Please see http://www.shepherd.edu/disability for more information.

Academic Integrity
Each student in this course is expected to abide by the Shepherd University Academic Integrity Procedures in the Student Handbook – http://www.shepherd.edu/conduct.

Class Attendance
You must attend your classes regularly and engage in the requirements for each class; otherwise, your financial aid may be revoked either partially or in full. This would result in an amount due by you to the University immediately. Please refer to http://www.shepherd.edu/financialaid for more details.

Shepherd and CME Suggested Policies and Information

Free tutoring scheduling. Please refer to the academic support center's website at http://www.shepherd.edu/academic-support/.

Cell Phone and Text Messaging Policy – Please turn your cell phone off or put it in the silent mode. Please talk outside of the classroom if needed. No texting please.

Students in athletics – It is your responsibility to provide a letter signed by your coach listing all of the days in which you will be absent. Accommodations will be made only if the letter is received from your coach no later than the end of the first week of class.

The instructor reserves the right to update this syllabus, but only when necessary. In this case students will be notified in a reasonable and timely fashion.